Functionless batch processing with EB

- 1. About me
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About me

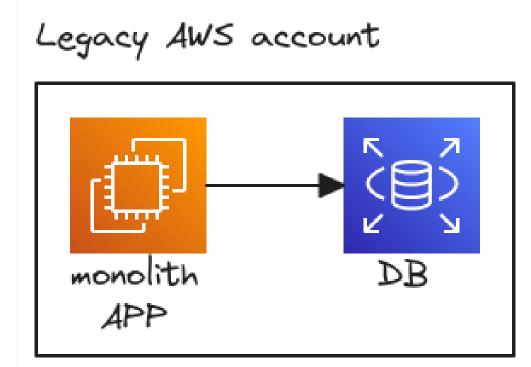
- I am Carlos Angulo
- I work at Ohpen as a Platform Engineer
- I have more than 8 years of experience
- You can find me on LinkedIn or GitHub





Situation

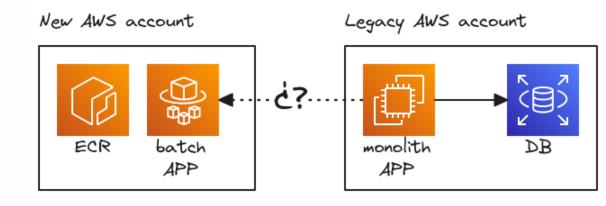
We have a legacy monolith app running in EC2 + RDS



Dockerization

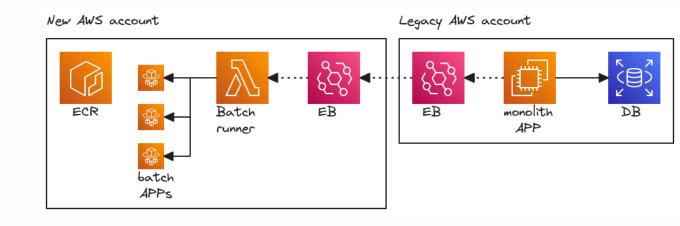
We dockerized some batch apps in a new account

How would you trigger those apps from the monolith?



What we did

We decide to trigger batches based on events



```
public async Task RunBatch(EventData detail, string traceId)
       var ecsConfig = await _configProvider.GetConfig(detail, traceId);
       var request = new RunTaskRequest
           Cluster = ecsConfig.ClusterName,
           TaskDefinition = ecsConfig.TaskDefinition,
           NetworkConfiguration = new NetworkConfiguration
               ... // omitted for brevity
           Overrides = new TaskOverride
               ContainerOverrides = new List<ContainerOverride>
                   new()
                       Name = ecsConfig.TaskDefinition,
                       Command = ecsConfig.CommandParams,
                       Environment = ecsConfig.EnvironmentVariables
                           .Select(source => new EcsKeyValuePair() { Name = source.Key, Value = source.Value })
                           .ToList()
       };
       var response = await _ecsClient.RunTaskAsync(request);
29 }
```

```
public async Task<EcsBatchConfig> GetConfig(EventData detail, string traceId)
        var batchInfo = _supportedBatches.FirstOrDefault(b => b.BatchTypeId == detail.BatchTypeId);
        if (batchInfo == null)
            throw new NotImplementedException("Unsupported batch type");
        var conf = _batchConfigurationProvider.Get(batchInfo.Id)
        var config = new EcsBatchConfig(
            conf.ClusterName,
            conf.TaskDefinition,
            ... // omitted for brevity
11
12
            new List<string> { CommandName, CommandParamBatchTypeId, detail.BatchTypeId.ToString() }
13
        );
        config.EnvironmentVariables.Add(EnvVarTraceId, traceId); // For monitoring batch
15
        if (detail.Parameters?.Any() ?? false)
            // expose event parameters to batch
            config.EnvironmentVariables.Add(EnvVarBatchParameters, detail.Parameters);
        return config;
19 }
```

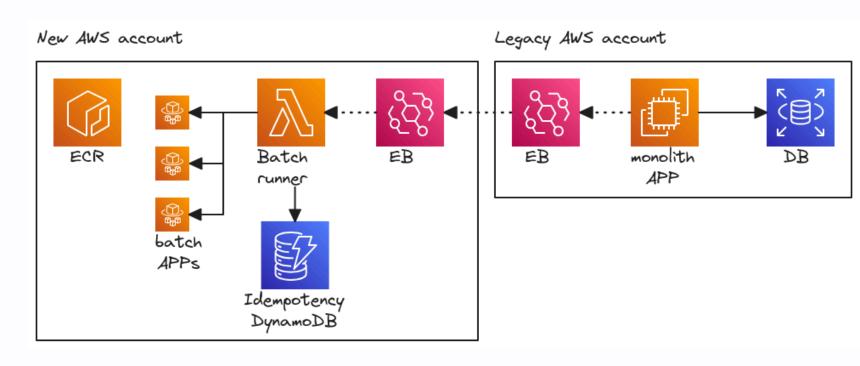
```
execute_ecs_tasks = {
     effect = "Allow"
2
     actions = [
3
       "ecs:RunTask",
     "iam:PassRole"
 5
 6
     resources = ["batch-apps-*"]
     principals = []
8
9
10
```

wait

What about duplicated events?

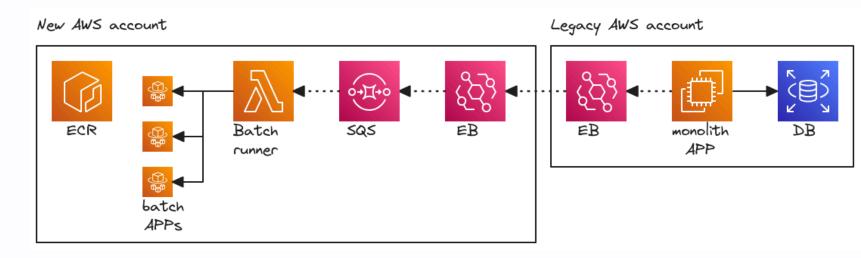


Idempotency with DynamoDB



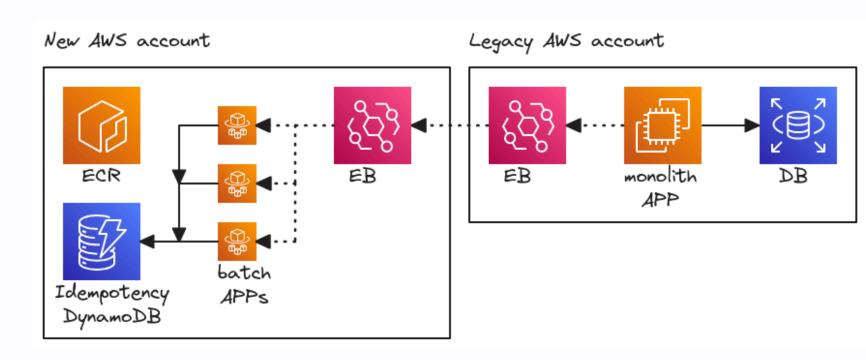
Serverless Barcelona Meetup 10

Idempotency with SQS



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simpler solution?



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What we learn

- lambda (+ SQS) offers more control
- EB + ECS is simpler but more expensive and adds logic to batch apps

Questions?